LAWRENCE LIVERMORE
REPORT

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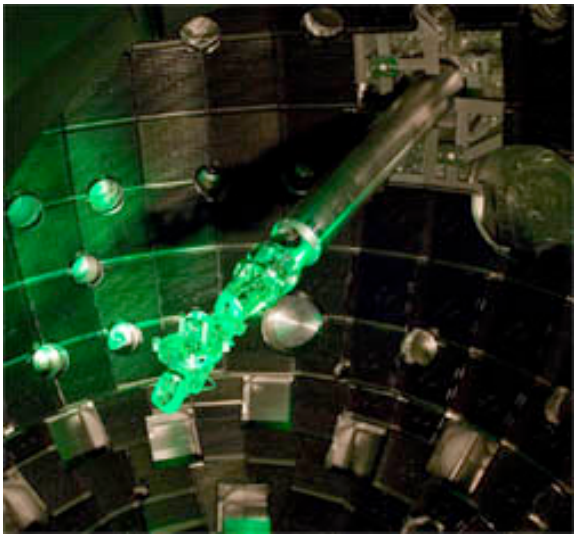
NIF inspection system keeps laser on target



The Final Optics Damage Inspection System (FODI) at the National Ignition Facility

Automation of the National Ignition Facility's (NIF) Final Optics Damage Inspection System (FODI) is making great progress. FODI is used to monitor the condition of the final optics in NIF beamlines and is a key capability in the overall operational strategy for the facility.

The system is inserted between target shots and acquires high-resolution images of the final optics. Previously, under manual control, insertion of the FODI into the target chamber took about 15 minutes; now, using NIF's Integrated Computer Control System (ICCS), that time has been reduced to five minutes. Image acquisition for one quad of beamlines has been reduced from one hour to five minutes, and the time required to fully inspect 48 beamlines has been cut from two full days to about one hour.

Once FODI completes imaging the optics the data are analyzed, and within 30 minutes the results are available. These results, together with the shot plan, are used to guide the near-term optics refurbishment schedule. The operational goal for the FODI system is to inspect 192 beamlines in about three hours.

The NIF Project is now 97 percent complete and has demonstrated 3.4 megajoules of energy capability.

It currently appears on the Website of the *Analytical Chemistry* journal of the American Chemical Society. For the full text of the article, see http://pubs3.acs.org/acs/journals/toc.page?incoden=ancham&indecade=0&involume=0&inissue=0.

Lab-based fuel cell earns Best Soldier System award

A micro fuel cell based on LLNL technology and developed by UltraCell Corporation has captured the Best Soldier System Innovation and Technology award at the Soldier Technology U.S. 2008 conference.

Known as the XX25™ fuel cell, the energy conversion device is based on the Laboratory's micro fuel cell technology and powered by methanol.

The UltraCell fuel cell delivers up to 25 watts of continuous maximum power, weighs 2.7 pounds and is about the size of a hardback book. It can serve as a power source for computing, communications and sensing devices used in critical mobile and remote operations. These can include military missions, emergency and disaster response, remote surveillance and field research and exploration.

The Soldier Technology U.S. 2008 conference is a gathering of military, research and industry experts to assess the latest trends and technologies that are applicable to the modern soldier.

(use logo at http://www.wbresearch.com/soldiertechnologyeurope/index.html)

Navy's Monterey school takes on the war on terror

Lawrence Livermore National Laboratory is hosting a full-day symposium on the scientific legacy of the late Dr. Edward Teller, in celebration of the 100th anniversary of his birth.

The event will take place May 28 at the new Bankhead Theatre in downtown Livermore, Calif. The format will consist of presentations and historical reflections on Teller's scientific career, followed by specialized lectures from distinguished speakers in each field of science, technology and education where he made seminal contributions.

The symposium is sponsored by the Lawrence Livermore National Laboratory, the University of California, the Hertz Foundation, and the Hoover Institution of Stanford University.

For more information, see https://tellercentennial.llnl.gov/ or call 925 422-4599.

Photo of the week

The Livermore Report archive, including today's issue, is available at:
https://publicaffairs.llnl.gov/news/lab_report/2008index.html